

# (12) UK Patent Application (19) GB (11) 2 399 686 (13) A

(43) Date of A Publication 22.09.2004

(21) Application No: 0310390.0  
(22) Date of Filing: 07.05.2003  
(30) Priority Data:  
(31) 092204073 (32) 17.03.2003 (33) TW

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(51) INT CL<sup>7</sup>:  
H05K 9/00 , G06F 1/18 , H05K 7/18

(52) UK CL (Edition W ):  
H1R RBM

(56) Documents Cited:  
US 6373692 B1 US 5593219 A  
US 4635811 A

(58) Field of Search:  
UK CL (Edition V ) H1R  
INT CL<sup>7</sup> G06F, H05K  
Other: ONLINE DATABASES: WPI, EPODOC, JAPIO

(54) Abstract Title: **Computer housing**

(57) A computer housing comprises an upper housing A which sits on a frame 1. The frame 1 comprises two parallel arms 11, each having at least two protrusions 111. These protrusions support the upper housing, so that it is resistant to deformation when under a load (such as a monitor sitting on top of the housing). This enables the computer housing to retain its electromagnetic shielding efficiency. The protrusions have a generally four sided base with a surface extending obliquely upwards from each side. The four surfaces meet at the top of the protrusion where there is a raised flat surface 1111. The protrusions may be soldered to the frame.

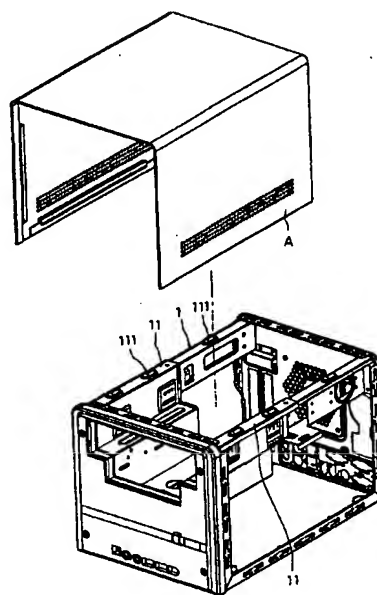


FIG. 1

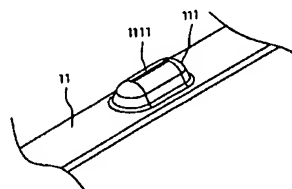


FIG. 2

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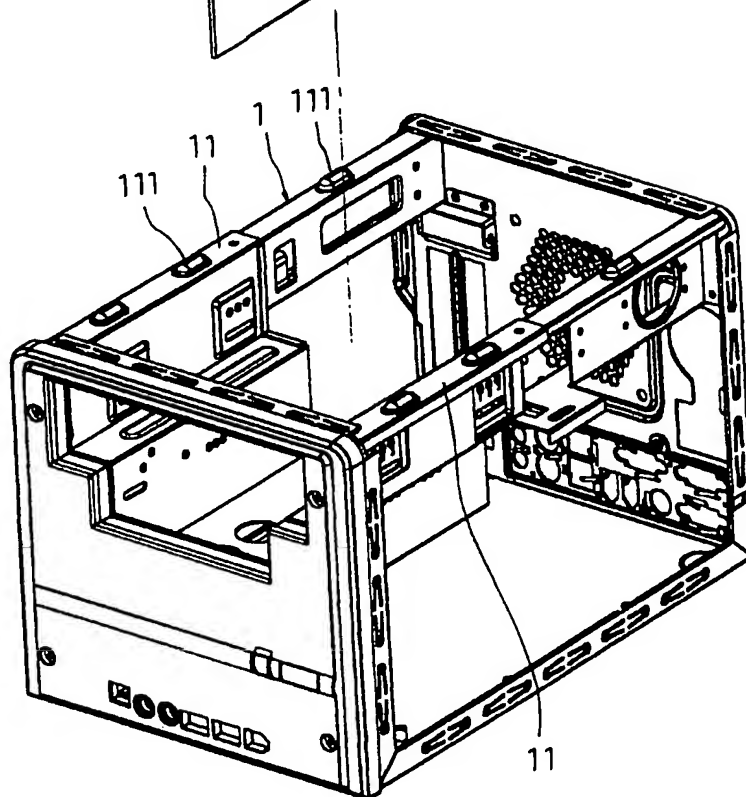
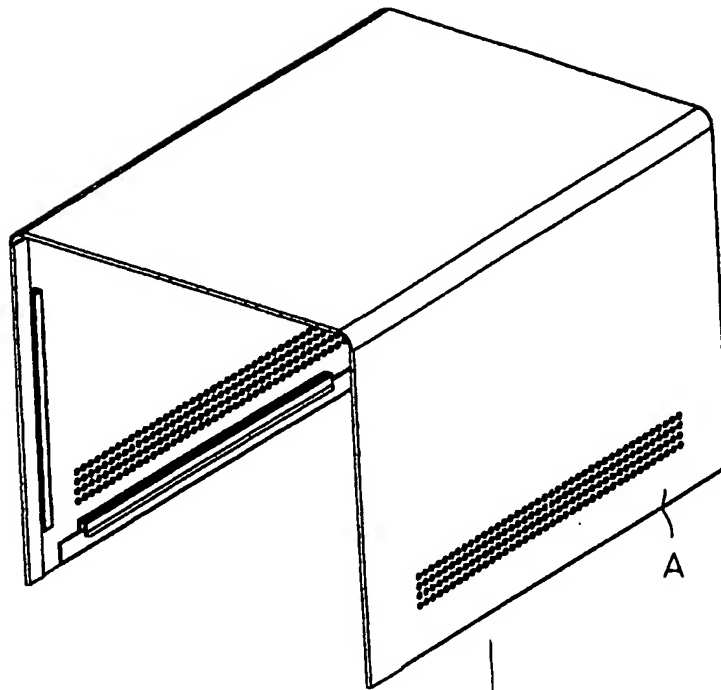


FIG.1

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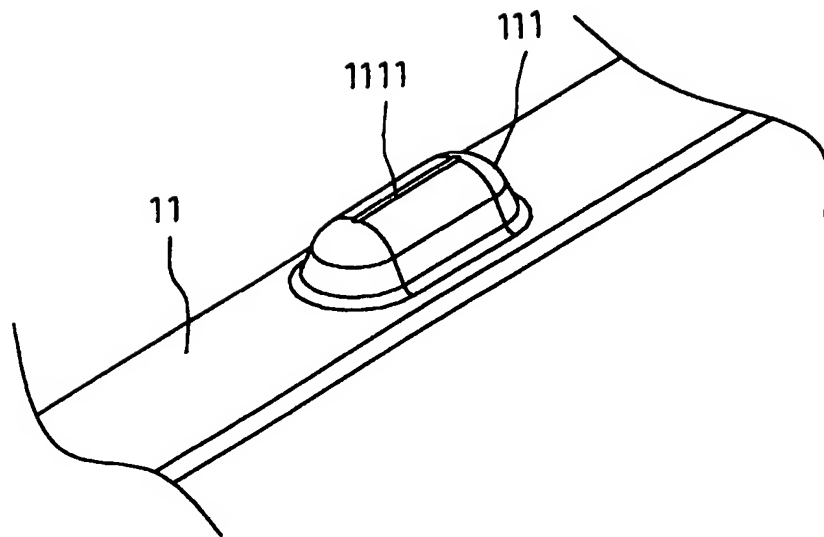


FIG. 2

## **IMPROVEMENT STRUCTURE OF A COMPUTER FRAME**

### **FIELD OF THE INVENTION**

The present invention relates generally to an improvement structure of a computer frame. More particularly, the present invention relates to an improvement  
5 structure of a computer frame that has a plurality of protrusions so as to prevent changing shape of the housing and to improve the electromagnetic wave shielding efficiency by the supporting of said protrusions.

### **BACKGROUND OF THE INVENTION**

Generally speaking, the computer host is the spirit of the computer system,  
10 which determines the operation and stability of the computer system. Therefore, the design of the computer host is an interesting topic to the computer manufacturer.

However, the design of the computer host with the prior art mainly comprises a frame generally to form an internal space for positioning a plurality of electronic components and other parts therein, and covering a housing with a U-shape section  
15 over the frame from up to down so as to shield internally and prevent the electromagnetic wave leaking outwardly.

The design of the computer frame with the prior art is positioned some semicircle spherical protrusions on the top surface of the computer frame and covered with a housing.

20 The defect of the computer frame designed by the prior art is that the stress of the housing is insufficient because of the material of the housing is aluminum. Therefore, upon covering the housing over the computer frame, the housing is resisted by the semicircle spherical protrusions and changes shape easily, especially, when positioned with a heavy object over the housing, such as a monitor or a

peripheral device; therefore, the housing with changing shape will decrease the electromagnetic wave shielding efficiency.

Therefore, it needs an improvement structure of a computer frame that has a plurality of protrusions so as to prevent changing shape of the housing and to improve the electromagnetic wave shielding efficiency by the supporting of said protrusions.

#### **SUMMARY OF THE INVENTION**

To solve the above problems, it is an object of the present invention to provide an improvement structure of a computer frame that has a plurality of protrusions so as to prevent changing shape of the housing and to improve the electromagnetic wave shielding efficiency by the supporting of said protrusions.

To accomplish the above object of the present invention, there is provided an improvement structure of a computer frame, wherein two juxtaposed top frames of said computer frame have at least two protrusions respectively, and each said protrusion is a bottom with four surfaces, wherein, each surface extends obliquely upward to the center of said bottom, and forms a flat protruding surface so as to prevent changing shape of the housing and to improve the electromagnetic wave shield efficiency by the supporting of said flat protruding surface.

The novel features of the invention are set forth with particularity in the appended claims. The invention will be best understood from the following description when read in conjunction with the accompanying drawings.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig. 1 shows a three-dimensional diagram of an improvement structure of a computer frame in accordance with one embodiment of the present invention.

Fig. 2 shows a three-dimensional diagram of the protrusions of the computer frame in accordance with one embodiment of the present invention.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to Fig. 1 shows a three-dimensional diagram of an improvement  
5 structure of a computer frame in accordance with one embodiment of the present invention. As shown in Fig. 1, basically, the improvement structure of a computer frame of the present invention comprises a computer frame 1, which can be covered by a housing A.

Wherein, the top surface of the computer frame 1 has at least two top  
10 frames 11 juxtaposed and positioned oppositely, and at least two protrusions 111 positioned over the top frames 11 respectively.

For the purpose of solving the defect of the prior art, please refer to Fig. 2 shows a three-dimensional diagram of the protrusions of the computer frame in accordance with one embodiment of the present invention. As shown in Fig. 2, the  
15 protrusions 111 are square or rectangle shapes and each surface of the protrusions 111 extends obliquely upward to the center of said bottom, and forms a flat protruding surface 1111 with a square or rectangle shape, and every border of the flat protruding surface 1111 is an arc shape with an inverted angle decoration; the flat protruding surface 1111 is a flat surface and is connected to the top frames 11 by way of  
20 soldering or the other ways with prior art.

Referring to Fig. 1 and 2 again, upon covering the housing A over the computer frame 1, the housing A is supposed and resisted by the flat protruding surface 1111 of the protrusions 111 and formed a surface touching, therefore, the computer frame 1 with the present invention can prevent the changing shape defect  
25 of the prior art because of single point receiving force.

While the invention has been described with reference to a preferred embodiment thereof, it is to be understood that modifications or variations may be easily made without departing from the spirit of this invention, which is defined by the appended claims.

**WHAT IS CLAIMED IS:**

1. An improvement structure of a computer frame, wherein two juxtaposed top frames of said computer frame have at least two protrusions respectively, and each said protrusion is a bottom with four surfaces, wherein, each surface extends  
5 obliquely upward to the center of said bottom, and forms a flat protruding surface so as to prevent changing shape of the housing and to improve the electromagnetic wave shield efficiency by the supporting of said flat protruding surface.
2. An improvement structure of a computer frame as claimed in claim 1,  
10 wherein said protrusions are connected each other on said top frames by way of soldering.
3. An improvement structure of a computer frame as claimed in claim 1,  
wherein said protrusions are rectangle shapes and have same direction with said computer frame.
4. An improvement structure of a computer frame as claimed in claim 1,  
15 wherein every adjoining surface of said protrusions has an arc decoration.





INVESTOR IN PEOPLE

Application No: GB 0310390.0  
Claims searched: All

Examiner: James Hull  
Date of search: 17 July 2003

## Patents Act 1977 : Search Report under Section 17

### Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
A		US 6373692 B1 MACE TECH CORP. See Figure 2.
A		US 5593219 A HSIN C. HO. Note hooks 133 in Figure 1.
A		US 4635811 A HONEYWELL INFORMATION SERVICES. See pins 21 in Figure 8.

### Categories:

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

### Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC<sup>v</sup>:

H1R

Worldwide search of patent documents classified in the following areas of the IPC<sup>7</sup>:

G06F  
H05K

The following online and other databases have been used in the preparation of this search report:

WPI, EPODOC, JAPIO.